REMARKS

This amendment is responsive to the Final Office Action of July 7, 2009. Reconsideration and allowance of claims 3, 5, 9, 11-18, 22, and 25-36 are requested.

The Office Action

Claims 2-9, 11-22, and 25 stand rejected under 35 U.S.C. § 112, second paragraph.

Claims 2-9, 11-22, and 25-36 stand rejected under 35 U.S.C. § 102 based on DICOM EasyVision (not record) and the DICOM EasyVision DX 8.2 Conformance Statement.

Claims 2-6 and 13 stand rejected under 35 U.S.C. § 103 over Debbins (US 2002/0060566).

Claim 7 stands rejected under 35 U.S.C. § 103 over Debbins in view of Okerland (US 2004/0225331).

Claim 8 stands rejected under 35 U.S.C. § 103 over Debbins in view of Bitter (US 2005/0228250).

Claim 9 stands rejected under 35 U.S.C. § 103 over Debbins in view of Bitter, further in view of Wright (US 6,004,270).

Claim 11 stands rejected under 35 U.S.C. § 103 over Debbins in view of Penner (US 6,431,175).

Claims 12, 14, and 18 stand rejected under 35 U.S.C. § 103 over Debbins in view of Agfa (Infomatics-IMPAX DS3000).

Claim 15 stands rejected under 35 U.S.C. § 103 over Debbins in view of Argiro (US 5,986,662).

Claims 16, 17, and 21 stand rejected under 35 U.S.C. § 103 over Debbins in view of Koritzinsky (US 6,272,469).

Claim 19 stands rejected under 35 U.S.C. § 103 over Debbins in view of Rothschild (US 2002/0016718).

Claim 20 stands rejected under 35 U.S.C. § 103 over Debbins in view of Rothschild, further in view of Coleman (US 6,306,089).

Claim 22 stands rejected under 35 U.S.C. § 103 over Debbins in view of Berger (US 2004/0015079).

Claim 25 stands rejected under 35 U.S.C. § 103 over Debbins in view of Vosniak (US 2005/0020898).

Claim 26 stands rejected under 35 U.S.C. § 103 over Vosniak in view of Robarts (US 7,073,129).

Claim 27 stands rejected under 35 U.S.C. § 103 over Vosniak in view of Robarts, further in view of Debbins.

Claim 28 stands rejected under 35 U.S.C. § 103 over Vosniak in view of Robarts, further in view of Penner.

Claims 29 and 35 stand rejected under 35 U.S.C. § 103 over Vosniak in view Robarts, further in view of Agfa.

Claim 30 stands rejected under 35 U.S.C. § 103 over Vosniak in view of Robarts, further in view of Wright.

Claim 31 stands rejected under 35 U.S.C. § 103 over Vosniak in view of Robarts, further in view of Bitter.

Claim 32 stands rejected under 35 U.S.C. § 103 over Vosniak in view of Robarts, further in view of Argiro.

Claims 33 and 34 stand rejected under 35 U.S.C. § 103 over Vosniak in view of Robarts, further in view of Koritzinsky.

Claim 36 stands rejected under 35 U.S.C. § 103 over Vosniak in view of Robarts, further in view of Debbins, further yet in view Agfa, further yet in view of Wright, further yet in view of Bitter, and still further yet in view of Koritzinsky.

DICOM

DICOM (Digital Imaging and Communications in Medicine) is a standard for handling, storing, printing, and transmitting medical information in medical imaging. It includes a file format definition and a network communications protocol which enables every DICOM compatible workstation in a hospital (typically all workstations) to handle any diagnostic image and its accompanying image and patient identifiers regardless of the imaging modality or the manufacturer of the imaging equipment.

The DICOM communication protocol is an application protocol that uses TCP/IP to communicate between systems. DICOM format files can be exchanged between two entities that are capable of receiving image and patient data in DICOM format. DICOM enables the integration of scanners, servers, workstations, printers, and network hardware for multiple manufacturers into a common or universal picture archiving and communication system (PACS).

In the beginning of the 1980s, the various manufacturers of diagnostic imaging equipment had different formats and protocols for images generated with their imaging equipment. In some instances, the images made by different modality in the imaging devices of the same manufacturer were not compatible. In other instances, the images generated by older generations of imaging equipment were incompatible with newer generations of the same modality.

Starting in the early 1980s, the American College of Radiology (ACR) and the National Electrical Manufacturers Association (NEMA) started preparation of a standard to solve this incompatibility problem, the first version of which was released in 1985. In 1993, the third version of this standard was renamed DICOM. The DICOM standard has today achieved a near universal level of acceptance among medical imaging equipment vendors and healthcare IT organizations. DICOM has been widely adopted by hospitals and is supported by virtually every major manufacturer of diagnostic imaging equipment and of hospital workstations.

The Examiner Appears to Have Misconstrued DICOM

At the bottom of page 6 of the Office Action, the Examiner asserts "The claimed invention is directed toward an imaging system, or as defined within the art as a DICOM workstation". As explained above, DICOM is a format for medical images and information. A DICOM workstation is merely a workstation which can receive, display, print, etc. DICOM format images. Contrary to the Examiner's assertion, "DICOM workstation" does not connote an imaging system. While CT and other diagnostic imaging systems today produce final images in the DICOM format, numerous other workstations found in modern hospitals that generate medical reports, enable a doctor to review patient records, and any workstation which can display DICOM images is also a DICOM compliant workstation.

Request for Reconsideration of the Demand For an EasyVision DX 8.2 Manual

First, the EasyVision workstation is a discontinued product line. EasyVision was originated by a company that was acquired by the present assignee. The EasyVision product was promptly superseded some by the EasyView product. Trying to locate a manual which originated with an acquired company for a product which has been superseded for several years is unduly burdensome. To date, the applicant has been unable to locate such a manual.

Second, the present application arose from the diagnostic imaging division of the assignee, more particularly from the CT scanner division. The EasyVision product is not under the diagnostic imaging division of the assignee. It is a product under a different division of the assignee which makes products such as display terminals, report generators, and the like, for use in hospitals. It is submitted that trying to obtain a manual for a superseded product from another division of the assignee is unduly burdensome.

Most importantly, the Examiner has shown no logical nexus between the EasyVision product and the present claims. The present claims are directed to the set up and preparation for performing diagnostic imaging scans to generate images. The Functionality Matrix reproduced by the Examiner on page 7 of the Office Action lists a series of display and print functions for previously generated images. None of the listed functions relate in any way to setting up a CT scanner or other diagnostic imaging scanner to generate a diagnostic image. Rather, all functions listed in the Functionality Matrix are functions commonly performed when handling medical data or images retrieved from a hospital database. Accordingly, it is submitted that the Examiner has failed to show any logical nexus between the EasyVision workstation and the present claims. The Examiner has not shown that the EasyVision workstation has any more relevance to the present claims than any of the thousands of other workstations commonly found in hospitals which are capable of handling DICOM format images and medical information.

Because the Examiner has shown no nexus between the EasyVision product and the present claims, and because locating an EasyVision User Manual has

proved overly burdensome, it is requested that the Examiner reconsider and withdraw the demand for submission of the EasyVision Manual.

The applicant will continue trying to locate an EasyVision Manual. The EasyVision Manual is not believed to be a public document. If one is located, the undersigned will contact the Examiner to discuss the Patent Office procedures for submitting the Manual under seal and the Patent Office procedures which will be followed to maintain the trade secret status of any and all trade secret information contained in the EasyVision Manual.

The Present Amendment Should Be Entered

First, the Office Action of July 7, 2009 is incomplete. Paragraph 6 of the Office Action purports to be a rejection of claims under 35 U.S.C. § 101. However, no claims are identified as failing to comply with 35 U.S.C. § 101.

Second, it is submitted that the *Finality* of the Office Action of July 7, 2009 is premature because the Office Action of July 7, 2009 contains new grounds of rejection not necessitated by applicant's response. The Examiner makes a new ground of rejection under 35 U.S.C. § 112, second paragraph, which was not necessitated by Amendment B. As a first example, the Examiner rejects claims 2 and 3 based on the protocol configuration means. Not only does independent claim 3 not call for a "protocol configuration means", but the claimed "protocol selection means", the language of claim 3 which the Examiner asserts is indefinite does not appear in claim 3. As another example, the language of claim 14 which the Examiner alleges to be indefinite is substantially the same as claim 14 as previously presented. As another example, the alleged indefinite language in claim 20, line 2 does not appear in claim 2, line 20.

Third, the present amendment should be entered as reducing the issues on Appeal. The amendments to the claims address only the 35 U.S.C. § 112 rejections and cancel claims. Specifically, the "means for" language to which the Examiner objected has been replaced with "a computer programmed to" language. Specific wording choices which the Examiner found objectionable have been clarified. Because this Amendment reduces the issues on Appeal by resolving the

35 U.S.C. § 112 issues and cancelled claims, it is submitted that the Amendment should be entered as reducing the issues on Appeal. Care has been taken to address the 35 U.S.C. § 112 issues without altering the scope of the remaining claims. Accordingly, no further search or consideration is required.

Fourth, in the rejection of claim 22 under 35 U.S.C. § 103, the Examiner purports to reject claim 22 over Debbins in view of Berger, but then proceeds to apply Okerlund. Clarification of the basis for rejection of claim 22 is required.

35 U.S.C. § 112

Claim 3 does not include the language which the Examiner asserted is indefinite. This has left the applicant to guess the Examiner's intent. After due consideration of the Office Action, it is believed that the Examiner is objecting to the "means for" language. Accordingly, claim 3 and the claims dependent from it have been amended to replace the "means for" language with "a computer programmed to".

The other claims which depend from claim 3 have been revised to address the Examiner's concerns.

The Present Application

When the present application was first filed, the set up procedures for the newest 16-slice CT scanners were so labor intensive that a hospital could only examine about 28 patients per day. However, in order to justify the cost of this equipment, the hospitals wanted to process 40 patients per day. The present application proposes an expedited imaging procedure in which a few minutes are saved in each of numerous aspects of the imaging procedure.

Diagnostic imaging scanners typically arrive from the factory with hundreds to thousands of available imaging protocols. To compound the problem of the large number of initially installed protocols, diagnostic imaging scanners, as illustrated by Debbins, typically enable the purchaser to add additional protocols. This can increase the size of the available protocol library many-fold. One of the time-consuming portions of setting up to perform a diagnostic imaging procedure is

when the operator needs to sort through the myriad of available imaging protocols to select the appropriate one to use on the present patient, given the preferences of the requesting radiologist. The present application proposes to look to various knowns such as the patient size, the patient age, preferences of the requesting radiologist, and other information which is known before the patient arrives and eliminate imaging protocols which are not appropriate for the present patient. Because this improvement enables a hospital to scan more patients per day, it provides very significant financial advantages over the prior art.

Other features which save time, hence improve patient throughput and have very significant financial advantages to the hospital include: starting imaging processing while the scanner is still collecting data rather than waiting until the scan is over; automatically optimizing various scan parameters such as kV and mA in a CT scan; retrieving prior images of the same patient from a hospital database and forwarding these prior images to the radiologist along with the newly generated image; using the examination protocol from an earlier image to select the examination protocol for the present image, where appropriate; grouping adjacent ones of the 400-500 slices that a whole-body scanner can generate into fewer, thicker slabs which are separable into slices to expedite radiologist review; streamlining workflow by prompting the operator to move through each step of the procedure; automatically populating a digital logbook to eliminate the time currently spent by the operator maintaining a manual logbook; enabling scan information to be mined to find out more about scanner use and determine yet greater efficiencies; and enabling protocols to be selected remotely, e.g., by a PDA, and be preloaded before the patient arrives to be scanned.

Claims 3, 5, and 13 Are Not Anticipated by Debbins

Claim 3 calls for a computer programmed to chose a limited number of selected examination protocols from among the plurality of examination protocols stored in an examination protocol database in response to receiving the patient's limiting parameters. As discussed above, this saves valuable set-up time, enables more patients to be scanned per day, and has very significant financial advantages to the hospital which purchased the scanner. Debbins, if anything, exacerbates the

problem. Rather than reducing the number of protocols among which the operator can choose, Debbins is directed to an application development system which enables the operator to generate yet additional application programs/examination protocols for an MRI system (paragraph [0047]).

Paragraphs [0081-0084] of Debbins, referenced by the Examiner, do not show the above-discussed limitation. To the contrary, these paragraphs are directed to developing and adding additional selectable examination protocols. Thus, rather than limiting the number of selectable protocols, paragraphs [0081]-[0084] describe how the user can quickly and easily expand the number of examination protocols.

Because Debbins does not disclose all elements of claim 3, and indeed teaches against the above-referenced limitation, it is submitted that claim 3 and claims 5 and 13 dependent therefrom are not anticipated by Debbins and that claims 9, 11-18, and 25 distinguish patentably over Debbins.

Claims 9, 11-18, and 25 Distinguish Patentably Over the References of Record

The dependent claims set forth numerous additional features which improve patient throughput and provide significant financial advantages to the hospitals. Because Debbins does not disclose the subject matter of claim 3, the additional distinctions set forth by the dependent claims are not discussed at the present time. However, the application preserves the right to provide detailed explanations of the patentable distinctions of each dependent claim in a future Appeal Brief or other communications.

Claim 22 Distinguishes Patentably Over the References of Record

The Examiner rejects claim 22 based on Debbins in view of Berger. The Examiner concedes that Debbins does not disclose any of the method steps. The Examiner does not discuss Berger or assert that any of the claimed steps are, in fact, shown by Berger. Instead, the Examiner applies Okerlund. Okerlund does not disclose that which the Examiner asserts.

Berger discloses an ultrasonic scanning apparatus which has a plurality of settings and a control bar with tools for affecting the image settings. Berger defines default values or histograms for the various settings which saves the operator the bother and time of entering all of the individual settings prior to performing the ultrasound scan. It is submitted that these settings correspond to the scanned parameters discussed below in conjunction with Vosniak.

The use of default or preset scan settings does not disclose entering patient limiting parameters prior to scanning, nor does it teach matching the patient limiting parameters with one or more optimal examination protocols, nor does it disclose displaying a list of one or more examination protocols for the scanning of the patient in response to the results of the matching, nor does it disclose displaying the list to the user for use in selecting the examination protocol to be used.

Claims 26-36 Distinguish Patentably Over the References of Record

Claim 26 calls for a computer programmed to select a limited number of examination protocols from a menu of available protocols in accordance with entered patient size, patient age, radiologist identification, radiologist preferences, and a nature and region of the patient to be scanned. First, the Examiner refers the application to Vosniak, paragraphs [0031]-[0040], particularly paragraph [0033]. These paragraphs of Vosniak do not show or fairly suggest this limitation. Rather, these paragraphs indicate that the operator of the scanner receives a list of patients to be scanned and relative data about each patient. Paragraph [0033] indicates that the system can receive data entry during the data acquisition phase of a scan. When the patient is in position and ready to be scanned, the operator commands the scanner to begin the acquisition phase. During the acquisition stage, various information can be displayed concerning the progress of the ongoing data acquisition phase, such as a scan description, scan status, frame number, time remaining, scan range, and tracer information. Paragraph [0034] indicates that the operator can select the scan protocol and scan parameters for a subsequent patient during the data acquisition phase of the scan of a previous patient. Nothing in this paragraph suggests presenting the operator with anything less than the full selection of available scan protocols. Paragraph [0035] indicates that the operator can enter pre-injection assay information

which will be stored as part of the record of the images generated subsequently by the scan. Paragraph [0036] indicates that scan protocols are selected using a main menu. There is no suggestion that the menu be anything less than all available scan protocols. Once a scan protocol is selected, the protocol advises the operator to enter various scan parameters or settings. The operator may use prior scan parameters or settings or may custom design the settings and parameters for the selected scan protocol. Paragraph [0037] indicates that during the data acquisition stage, the operator can use the same terminal to edit information about the patient or the scan. This paragraph does not relate to selecting a scan protocol. Paragraphs [0038]-[0040] relate to data input of screens that are displayed to the operator. Paragraph [0039] is interesting in its discussion of DICOM standard worklist information which allows the operator to enter scan-specific or patient-specific information into the scanner to be saved with the appropriate patient's images while the scanner is scanning other patients in the list. Thus, none of paragraphs [0031]-[0040] disclose, teach, or fairly suggest selecting a limited number of examination protocols from a menu of available protocols in accordance with entered patient size, patient age, radiologist identification, radiologist preferences, and a nature and region of the patient to be scanned, nor do these sections suggest presenting a display to the operator of this limited number of examination protocols.

Robarts does not cure these shortcomings of Vosniak. Robarts relates to a system that filters incoming messages, e.g., a spam or junk-mail filter. Robarts further suggests that messages that make in through the first filtering level can be further filtered to determine the importance of the information to the user, e.g., whether the messages should be presented immediately or held back for later review. Robarts suggests adjusting this second filter based on the user's current activity. That is, based on what the user is doing, the filter is automatically adjusted to allow only messages of the utmost importance, such as when the user is very busy, or messages that may be of interest to the user, such as advertisements, when the user has more leisure time. While the Robarts e-mail filtering system may an interesting system, it is not related to the Vosniak patent or the present application. Nowhere does Vosniak disclose, teach, or fairly suggest that the problem of user setup times being too long in a diagnostic scanner might be cured by limiting the number of

examination protocols which are presented to the operator in accordance with patient size, patient age, radiologist identification, radiologist preferences, and a nature and region of the patient to be scanned.

Accordingly, it is submitted that claim 26 and claims 27-36 dependent therefrom distinguish patentably and unobviously over the references of record.

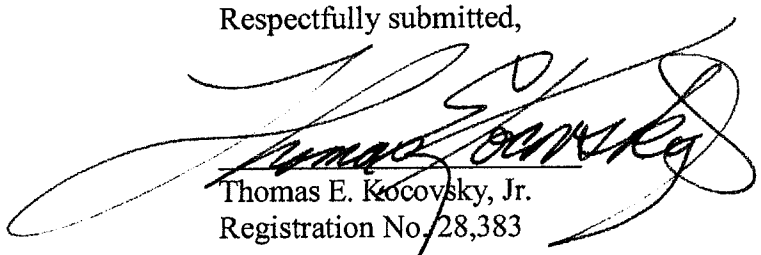
Dependent claims 27-36 set forth yet additional limitations which are not shown or fairly taught by the applied teaching references. However, because the Examiner has failed to make a *prima facie* case of obviousness of parent claim 26, a detailed discussion of the reasons for patentability of each of the dependent claims will be deferred to the Appeal Brief or other submissions to the Patent Office.

CONCLUSION

For the reasons set forth above, it is submitted that claims 3, 5, 9, 11-18, 22, and 25-36 distinguish patentably and unobviously over the references of record. An early allowance of all claims is requested.

In the event the Examiner considers personal contact advantageous to the disposition of this case, the Examiner is requested to telephone Thomas Kocovsky at (216) 861-5582.

Respectfully submitted,



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